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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/639,947	08/12/2003	Paul Brown	08436.0073USC1	6987
23552 7590 08/10/2007 MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER REDDING, DAVID A	
			ART UNIT 1744	PAPER NUMBER
			MAIL DATE 08/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/639,947	<b>Applicant(s)</b> BROWN ET AL.	
	<b>Examiner</b> David A. Redding	<b>Art Unit</b> 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-22 and 29-31 is/are allowed.
- 6) ☒ Claim(s) 23-2832-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23,24,25,26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 23 and 24 specify that a "fan maintains the biofilm or matrix particulate moisture coating such that a majority of high temperatures gas phase conversion at the interphase of the gas/biofilm are anaerobically produced normally odorous gases and are carried out by bacteria of pyrophillic and thermophillic genera thus making the composting materials largely self filtering in respect to undesirable odours". There is no support for this specific embodiment. Further, in claim 25 there is no support for "whereby the effective working height is defined as the height of the biodegradable materials located above the bottom layer."

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Regarding claims 28,37-41, the phrase "grate-type" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "type"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claims 27,32-36,42, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "**generally** parallel sides" is indefinite since it is unclear from a reading of the specification what range of sidewall designs are considered to satisfy the claim language.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 27-31,33-36,38-41, are rejected under 35 U.S.C. 102(b) as being anticipated by USP 4,135,908 (Widmer).

The Widmer patent discloses a continuous flow vertical, insulate composting tower (9) having a base with a plurality of rotating bars, called a grid (10), which is considered to constitute a grate. The bars are capable of rotating in a clock-wise and counter clock-wise direction and therefore are capable of "oscillating".

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Below the grid (10) is a plenum (14) into which air is induced via air inlet (27) and fan (26). The limitations directed to the "biomass", such as moisture content, active moisture biofilm, green waste and sludge is considered to be "material worked upon" and therefore does not structurally define the composting system.

Claims 27,29,30,32-35 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 1,919,836 (Goldsborough).

The patent discloses a composting system which comprises parallel, vertical sidewalls, a base with a grate (15) and below the grate is a plenum. The device is capable of providing the compost temperature ranges and airflow to provide the concentration claimed.

### ***Drawings***

The drawings were received on 5/16/07. These drawings are approved.

### ***Response to Amendment***

The amendment to the specification overcomes the objections. Accordingly, the objections of 1/16/07 have been withdrawn.

### ***Response to Arguments***

With regards to claims 23 and 24, applicant argues the following:

The VCU allows for the maintenance of an active moisture bound biofilm from input to output (typically 45-50% w/w) which prevents the possibility of pyrolysis and encourages microbe activity. This makes it especially efficient for processing green wastes combined with food wastes or sewage sludge.

Page 4, line 5 states:

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Retained pile energy (7.8 G Joules in a 65m<sup>3</sup> VCU) induces air intake above stoichiometric needs. A naturally induced excess air rate and evolved gas is controlled by a fan with integral condenser/scrubber for condensate removal and odor control assurance which ever this might be required or mandated by legal requirements. (emphasis added).

Accordingly, the description provides that condensation is controlled by a fan and that the biofilm is moisture bound. Additional discussion of the biofilm is found at page 7, line 10 where it states:

Furthermore) condensation on the inside of the vessel roof drops back into the composting biomass sustaining an active biofilm within the composting matrix. While rendering an output of higher moisture content than conventional systems, this biofilm serves two important functions...

In view of the foregoing, the disclosure states that moisture is controlled by the fan and that the moisture sustains the biofilm. Thus, the embodiment is disclosed and Applicants respectfully request the Examiner's withdrawal of the rejection.

The examiner disagrees. The text cited at page 4, merely states that the fan with integral condenser/scrubber for condensate removal from the air which passes the fan. This is not the same as " maintaining the biofilm moisture coating such that a majority of high temperatures gas phase conversion at the interphase of the gas/biofilm are anaerobically produced normally odorous gases and are carried out by bacteria of pyrophillic and thermophillic genera thus making the composting materials largely self filtering in respect to undesirable odours.

Regarding the prior art rejection in view of USP 4,135,908 (Widmer), applicant argues the following:

The patent to Widmer generally discloses a tower which tapers in the upward direction. In sharp contrast, however, Applicants' claim 27 recites that the tower has at least two generally parallel sides and claim 28 recites a vertical composting tower. This limitation is not disclosed by Widmer, and in fact Widmer teaches against use of such a tower. More specifically, the Widmer specification at column 2 states that towers which have parallel sides (e.g., a circular cylinder) leads to bridging. Accordingly, Widmer does not anticipate each and every element of the claims.

The examiner disagrees.

During patent examination, the pending claims must be “ given their broadest reasonable interpretation consistent with the specification.” >The Federal Circuit’ s en banc decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005). The phrase “ generally parallel sides” is broadly interpreted to include the design disclosed in Widmer. Regarding claim 28, the tower in Widmer is vertical as shown in the drawings.

Regarding the prior art rejection in view of USP 1,919,836 (Goldsborough), applicant argues the following:

Goldsborough generally discloses a composting system having a group of grates through which biomass material falls from one grate to ~other (e.g., see Figs. 3 and 4). Additionally, in Goldsborough, the inner side walls and external side walls include a gap through which airflow moves, as described at page 2, lines 72-84. Still further, there is air located in and between the individual or separate heaps of waste organic matter (e.g., scc page 2, lines 85-87). Applicants’ claims 27 and 28, however, recite that the air moves from the base of the tower to an opening at the top of the tower through the biomass. Accordingly, the Goldsborough reference does not disclose Applicants’ recited invention.

Claims 28,37-41, do limit the air flow as described above, and the rejection of these claims in view of Goldsborough have been withdrawn. However, claims 27,32-36, and 42 do not preclude other types of air, including that which occurs in the design disclosed in Goldsborough. Accordingly, the rejection of claims 27,32-36,42, is maintained.

#### ***Allowable Subject Matter***

Claims 20,21,22,29-31 are allowed.

Claims 23-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 37 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A. Redding whose telephone number is 571-272-1276. The examiner can normally be reached on Mon.-Fri. 6:00 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran-Piazza can be reached on 571-272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ David Redding /  
Primary Examiner  
Art Unit 1744

DAR

